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State and Trait Anxiety: A Comparison of the On and Off Field Anxiety Levels of Athletes and Non-Athletes

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State and Trait Anxiety: A Comparison of the On and Off Field Anxiety Levels of Athletes and Non-Athletes

An Honors Thesis submitted in partial fulfillment of the requirements for Honors in the School of Health and Kinesiology.

By
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ABSTRACT

The purpose of this study was to quantitatively compare anxiety levels among collegiate basketball players and intramural athletes at a public, Division I university in the Southern part of the United States. This research looked at two different forms of anxiety: State Anxiety and Trait Anxiety. Surveys were completed by 60 students, 30 of which were classified as collegiate basketball players and the remaining 30 students were classified as non-collegiate intramural athletes. The data were analyzed using SPSS statistical software. The results showed no statistical difference in state or trait anxiety levels among different genders or athlete type. Further research should be done to include other factors to be analyzed such as age, class rank (e.g., sophomores), or sport (e.g., baseball). The study's results could assist college athletes and coaches in recognizing and understanding sport related anxiety and its effects.

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Introduction

As a collegiate Track athlete participating in the 400 meter dash, I experienced gut wrenching anxiety every time I stepped foot on the track. For many like me, anxiety was a constant presence that seemed to affect me greatly in some situations, and less in others. In sport settings, anxiety refers to "an unpleasant psychological state in reaction to perceived stress concerning the performance of a task under pressure" (Cheng, Hardy, & Markland, 2009, p. 27). Generally, Anxiety is comprised of cognitions (e.g., worry), behaviors (e.g., avoidance), emotions (e.g., scared), physiological response (e.g., increased heart rate), and relational aspects (Morris & March, 2004; Ollendick & March, 2004; Siverman & Treffers, 2001). Many who become anxious in the normal course of life, even as a common occurrence, experience anxiety with a negative connotation that is often analogous to fear (Sweeney & Pines, 2004). However, all anxiety is not bad anxiety. It is a natural response to a realistic threat and can be protective (e.g., helping students get ready for an exam) as well as subjective, with different people reacting differently relative to the concern at hand or to what is believed to be at stake (Ghinassi, , 2010). Anxiety can also be beneficial and can be utilized to heighten performance.

The purpose of this study was to compare anxiety among collegiate and Intramural basketball and players in order to investigate the on and off field anxiety levels based on gender and athlete type. This comparison is being made so as to make strides towards improving quality of life for athletes experiencing anxiety and decrease incidence of depression and giving up. This study could bring to light ways to assist athletes in coping with these challenges through

understanding the different kinds of anxiety, and points to a need for future research incorporating a variety of sports, levels of competition, and situational factors.

Chapter 2 Review of the Literature

Anxiety presents on a continuum from relatively low level to midlevel anxiety, to a rather intense anxiety when faced with a major life problem. Normal levels of anxiety, can be helpful, however excessive anxiety is where anxiety disorders are present (Eysenck, 1997) when a person displays extreme distress symptoms that last a significant amount of time, are sometimes developmentally inappropriate and interfere with daily life functioning (American Psychiatric Association [APA], 2000; Barrett & Pahl, 2006).

State and Trait Anxiety

In addition to these distinctions, it is important to distinguish between state and trait anxiety. State anxiety refers to the ever- changing mood component (Weinberg, 2015), and is defined more formally as an emotional state "characterized by subjective, consciously perceived feeling of apprehension and tension, accompanied by or associated with activation or arousal of the autonomic nervous system" (Spielberger, 1966, p. 17). State trait anxiety describes moment-to-moment situations, as in my own experience feeling anxious before running the 400-meter dash.

Unlike state anxiety, trait anxiety is part of the personality, and is an acquired behavioral tendency or disposition that influences behavior (Weinberg, 2015). Trait anxiety predisposes a person to have the stable tendency to attend to, experience, and report negative emotions and anxiety across many situations that objectively may not actually be physically or psychologically dangerous. According to Spielberger, the person then responds to these circumstances with state anxiety reactions or levels that are disproportionate in intensity and magnitude to the objective danger " (Spielberger, 1966, p. 17).To have trait anxiety, one would need to be classified as a nervous person in a general sense.

Competitive anxiety is a psychological variable known to negatively affect athletic performance if it is not kept in check (Esfahani & Soflu, 2010). It has been shown that less experienced athletes experience a steady rise in anxiety in the period leading up to and during competition, whereas experienced athletes also experience an increase in anxiety in the pre-event period and a decrease in anxiety just before and during competition (Bridges & Knight, 2005). Both cognitive and somatic state anxieties change fairly dramatically in the period leading up to competition (Martens, Vealey & Burton, 1990).

Other Theories of Anxiety

There are several different theories to explain the relationship between completion and anxiety. Two popular theories are: Individualized zones of optimal functioning (IZOF) model and Multidimensional Anxiety Theory. The IZOF was founded on the basis that top athletes have a zone of optimal state anxiety in which their best performance occurs, anything outside this zone is considered poor performance. The IZOF model was noted by Yuri Hanin, who expanded the notion beyond anxiety to show how zones of optimal functioning use a variety of emotions and other psychbiosocial states such as determination, pleasantness, and laziness (Hanin, 2000,2007). He concluded that for best performance to occur, athletes needs individualized optimal levels not only of state anxiety but of variety of other emotions as well.

Multidimensional anxiety theory predicts that cognitive state anxiety (worry) is negatively related to performance; that is, increase in cognitive state anxiety led to decreases in performances. But the theory predicts that somatic state anxiety is related to performance in an inverted U and that increases in anxiety facilitate performance up to an optimal level, beyond which additional anxiety causes performances to decline (Weinberg, 2015).

Empirical Table

Author	Purpose	Methods	Results
Headley, C., & Campbell, M. A. (2013). Teachers' Knowledge of Anxiety and Identification of Excessive Anxiety in Children. Australian Journal of Teacher Education, 38(3).	This study examined primary school teachers' knowledge of anxiety and excessive anxiety symptoms in children.	Three hundred and fifty-eight school teacher voluntarily completed the TAIRQ, a self-report questionnaire. One have of the report measured demographics the other half examined anxiety.	The results of this study showed that teachers has an understanding of what anxiety as a negative experience. It suggested that teacher's knowledge of anxiety and anxiety disorders does not appear to be a barrier in preventing children's referral for mental health treatment.
Jain, R. (2015). A Comparative Study of Sources of Stress in College Student Athletes and Non-Athletes. Multidisciplinary International Journal for Contemporary Scholars, 1(1).	This study goes beyond simply making connects about comparing stress among athletes and non-athletes. Its attempts to investigate the sources of the stress. The purpose of this exploratory study was to identity those common stressor that may be experienced by freshmen matriculating to college.	Three hundred and sixty freshmen students voluntarily got interviewed to assess various stressful events specifically oriented to college students.	This study suggested that those freshmen that dealt with conflicts with boyfriend's or girlfriend's family, to having a lot of responsibilities, not getting enough time for sleep, and having heavy demands from extracurricular activities. While the non-athletes experiences more stress in areas of financial burdens, making important decisions about their education or getting ripped off.
Mabweazara, S. Z., Andrews, B. S., & Leach, L. L. (2014). Changes in state anxiety prior to competition. African Journal For Physical, Health Education, Recreation & Dance, 20(2.1), 492-499.	This study focuses on the negative effects of competitive anxiety on an athlete's performance. Its aims to find out how anxiety affect athletes leading up to time of performance and investigates the	Subjects volunteered to be examined for Competitive State Anxiety by completing CSAI-2, a 27-item inventory used to asses two components of state anxiety, cognitive worry	The researchers concluded that there was significant differences between state anxiety scores measured seven days before the competition and at pre-competition (one hour before competition). They found that both cognitive and somatic state anxiety significantly increase before competition.

	temporal changes in state anxiety.	and somatic anxiety.	
Steadman, B. K. (2011). A Short Stress Coping Intervention in Female College Student- Athletes. Digital Commons.	This research examines the effect of a stress coping based intervention in the lives of female student-athletes.	Female colleges student athletes were asked to do The Inventory of College Students' Recent Life Experiences (ICSELE) used to identify individual exposure to sources of stress in a college student life.	The resulted scores collected from the inventory were used to determine whether the intervention had a significant impact on the amount of perceived stress in their lives.
Wilson, G., & Pritchard, M. (2005). Comparing Sources of Stress in College Student Athletes and Non-Athletes. The Online Journal of Sport Psychology, 7(1).	This study aims to identify specific sources of stress that significantly affects student-athletes that may differ from those experienced by the traditional non-sport college student. The purpose of this exploratory study was to identify those stressors identified by Division-I freshmen athletes as most prevalent during their first semester in college.	Students were evaluated using questions from The Survey of Recent Life Experience, which has shown to possess both validity and reliability.	It was concluded that athletes differed in a variety of ways from their non-athletic counterparts.

Methods

The purpose of this study was to compare the anxiety level of collegiate basketball athletes to non-collegiate intermural athletes, and across gender. The study's research questions asked:

1. Are there significant differences in the anxiety levels of athletes and non- athletes?
2. Will males or females show higher signs of state and trait anxiety?

The hypothesis of the study was:

> Athletes will report significantly higher scores of state and trait anxiety than non-athletes. Males will report significantly higher anxiety scores than females.

Sample

Participants for the two groups consisted of thirty collegiate athletes and thirty non-collegiate intramural athletes. Of those who participated in the study, 31 were female and 29 were male. The survey consisted of other demographic questions (race, class rank age, and sport) that were not analyzed in this study. For this study, participants (were required to have either participated in intramural basketball, or be considered a collegiate basketball player on either a men's or women's collegiate basketball team and played at least one minute of a regular season game. The participants were given a survey by the researcher in the tutoring facility and recreation activity center of the school.

Instruments

The SAS (Sport Anxiety Scale) and the STAI (The State-Trait Anxiety Inventory) were combined in this study to measure the on and off anxiety levels of the participants. This survey

consisted of thirty questions; fifteen of which concentrated on trait anxiety and the fifteen concentrated on state anxiety, and six categories for demographics. The SAS helped evaluate how much anxiety was caused because of the sport. The SAS test assed for four forms of sports anxieties: Total anxiety, Somatic Anxiety, Concentration and Disruption and Worry. The STAI test on the other hand tested for two forms of anxiety that were pertinent to understanding the formation and maintenance of anxiety; trait and state anxiety. All this data was examined and analyzed quantitatively to evaluate if any of the variables' had any correlations between athlete type and gender. The collected data was examined for major difference in anxiety across two demographics survived: athlete type and gender. T-tests were used in examining gender and ANOVA tests were used for athlete type classification. The results were analyzed using the IBM SPSS Software.

Limitations, Delimitations, and Assumptions

The study's limitations included sampling from intramural athletes that may be under representative of certain populations of non- collegiate athletes. Delimitations included that subjects were recruited from the same university, which restricted participation of collegiate basketball player's form other universities. Subjects were categorized by gender, race, school classification, and athlete type (Collegiate Athlete, Non-collegiate athlete). To be classified as a non-collegiate athlete in the study the subject must have competed in intramural basketball organized by the university. Assumptions made in the study were that all subjects answered the survey questions honestly and thoughtfully.

Results and Discussion

Results

The results of this study were analyzed using SPSS statistical software and the alpha level was set to 0.05 for all test. No statistical significant difference were found between the type of athlete and their state and trait anxiety levels. In addition, no statistical significant difference was found between gender for state and trait anxiety levels. The collegiate athletes reported a mean of 19.8 for trait anxiety which is considered to be low state anxiety and mean of 40.03 for state anxiety which would be considered moderate state anxiety. The non-collegiate athletes reported a mean of 17.3 for trait which also is considered low trait anxiety, and a mean of 39.9 for state anxiety which is deemed as moderate state anxiety. All reports on gender reported a mean estimated to 18.5 for trait with a standard deviation of 4.75 which indicated low anxiety levels for both men and women. For state anxiety men and women reported a mean of about 40.5 and a standard deviations of 5.5 which indicated moderate level of anxiety amongst both genders.

Discussion

The study explored the comparative anxiety levels of collegiate and non-collegiate athletes associated with anxiety to hinder them in their performance level. This is important because recent studies (Murray, 1997) have found that athletes may be in particular need of counseling for a variety of additional stress-related concerns, including time management, burnout, fear of failure, anxiety depression, and self-esteem issues. Although several studies have examined isolated sources of stress in college athletes populations (e.g., health concerns), few studies have examined a wide variety of stressors that affect both athlete and non-athlete

populations to ascertain how athlete might be more or less affected by traditional sources of those of non-athletes.

The results of this study do not support the hypothesis that there would be a significant different between collegiate athletes and non-collegiate athletes. There also wasn't a different between males and females who face anxiety. The outcome made me realize that no matter what level you participate in sports; all athletes are faced with the same challenges. These challenges involve staying on top of grades, going to class on time consistently, being involved with extra-curricular activities, having a social life all while trying to perform well as a superior athlete. Because I am involved with sports on a collegiate level, I was under the impression that I am faced with more anxiety than someone who would be involved as an intramural track runner. What I failed to realize is when you are an athlete, you take every game serious, no matter what level you are performing on.

The hypothesis on males reporting to face higher anxiety than females was not proven to be true. This was a surprise to me because we are aware that women are mentally stronger than males (Eagly, 1991). Considering this outcome in conjunction with the finding that there also was not any significant difference between collegiate athletes and non-collegiate athletes, indicated that, although I hypothesized that athletes experience more anxiety due to the fact they have more pressure when it comes to competing a game, both categories both often consider it to be a high state anxious experience prior to completion. In further support of this conclusion, very few athletes recognized that anxiety is natural or normal. As stated earlier trait anxiety is classified to being a part of an individual's personality. There was significantly low levels of trait anxiety experience by both athletes and non-athletes, which shows that anxiety with that particular sport is only experience moment-to-moment under certain circumstances.

This study serves to validate previous studies by identifying sources of stress and serves as a foundation for future research in the area of stress coping interventions with this unique population. Future research should also continue to investigate other factors such as age, class rank, or sport. Every athlete is not the same, different people get affected by anxiety for different reasons and breaking anxiety down into further components would help understand even better sources of stress.

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Appendix A State-Trait Anxiety Survey

The purpose of this study is to examine the on and off field anxiety levels of collegiate athletes and non-athletes, also if a student is affected by anxiety is it more so classified as state anxious or trait anxious. Participation in this study is completely voluntary and you may withdraw at any time. Participation in this attitudinal survey should take 10-15 minutes. Reply to these study questions will be considered permission to use your response in the study. Responses in the data collected are anonymous and will be reported in aggregated totals only. If you have any questions about your rights as a research participant, you may contact the Georgia Southern University Institutional Review Board (IRB), which is concerned with the protection of volunteers in research projects. You may reach the board by calling (912)478 – 5465 between 8AM and 5PM, Monday through Friday or by emailing irb@georgiasouthern.edu referencing tracking number H16093. If you would prefer not to participate, please do not fill out the survey. If you consent to participate, please complete the survey.

Directions: Please circle the response that best captures your own opinion:	Never		Some		A lot
1. Competing against others is socially enjoyable.	1	2	3	4	5
2. Before I compete I feel uneasy.	1	2	3	4	5
3. Before I compete I worry about not performing well.	1	2	3	4	5
4. I am a good sportsman when I compete.	1	2	3	4	5
5. When I compete I worry about making mistakes.	1	2	3	4	5
6. Before I compete I am calm.	1	2	3	4	5
7. Setting a goal is important when competing.	1	2	3	4	5
8. Before I compete I get a queasy feeling in my stomach.	1	2	3	4	5
9. Just before I compete I notice that my heart beats faster than normal.	1	2	3	4	5
10. I like to compete in games that use a lot of physical energy.	1	2	3	4	5
11. Before I compete I feel relaxed.	1	2	3	4	5
12. Before I compete I feel nervous.	1	2	3	4	5
13. Team sports are more exciting than individual sports.	1	2	3	4	5
14. I get nervous wanting to start the game.	1	2	3	4	5
15. Before I compete I usually get uptight.	1	2	3	4	5
16. I am concerned about this test.					

17. I feel nervous.	1 2 3 4 5
18. I feel at ease.	1 2 3 4 5
19. I have self-doubts.	1 2 3 4 5
20. I feel jittery.	1 2 3 4 5
21. I feel comfortable.	1 2 3 4 5
22. I am concerned I may not do as well in this competition as I could.	1 2 3 4 5
23. My body feels tense.	1 2 3 4 5
24. I feel self-confident.	1 2 3 4 5
25. I am concerned about losing.	1 2 3 4 5
26. I feel tense in my stomach.	1 2 3 4 5
27. I feel secure.	1 2 3 4 5
28. I am concerned about losing.	1 2 3 4 5
29. My body feels relaxed.	1 2 3 4 5
30. I'm confident I can meet the challenge.	1 2 3 4 5

Demographics: Please fill in the blank for your age and place an "X" beside the response that applies to you.

Age: _____years

Gender:
____Female
____Male

Race:
____White
____Black
____Hispanic
____Other

Class Rank:
____Freshman
____Sophomore
____Junior
____Senior
____Graduate

Sport:
____Basketball
____Baseball

Choose One:
Collegiate Athlete_____
Intermural Athlete_____

If you have any questions or concerns please contact:

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Thank you for participating